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Tri-Service CADD/GIS Technology Center
Waterways Experiment Station
Vicksburg, Mississippi

MEETING AGENDA

HAZARDOUS, TOXIC, AND RADIOACTIVE WASTE (HTRW)
FIELD WORKING GROUP MEETING

15 - 16 November 1994
at
Holiday Inn - Riverwalk North
San Antonio, Texas

Tuesday, 15 November 1994

0830 - 0900 Introduction and agenda of meeting - Bobby Carpenter

0900 - 0920 Review of previous minutes and Goals of meeting - Jim Krokee

1920 - 0945 Status of Center Activities - Bobby Carpenter

0945 - 1000 **Break**

1000 - 1045 U.S. Army Defense Ammunition Center & School Activities - Don Van Name

1045 - 1145 HTRW CADD/GIS initiatives of interest for the group by Commands, Installations & FOA's - Group

1145 - 1245 **Lunch**

1245 - 1330 USACE North Central Division's Defense Environmental Restoration Program GIS - Bob Warda

1330 - 1415 Ft. Sam Houston CADD/GIS Program - Damon Cardenas

1415 - 1515 Define CADD/GIS user requirements and Functional Areas - Bobby Carpenter/Group

1515 - 1530 **Break**

1530 - 1630 Define data requirements for Project needs - Bobby Carpenter/Group

1630 - 1700 Define CADD/GIS software/hardware needs of group - Bobby Carpenter/Group

1700 - 1730 Implementation Issues (Budget, Workshops,

Training, etc.) - Jim Krokee

1730 **Adjourn**

Wednesday, 16 November 1994

0800 - 1100 Field Trip to Kelly AFB HTRW Remediation Project - Phil Hunter

1100 - 1130 Discussion of prioritized FWG tasks/issues, Identify new POC's, Prioritized CADD/GIS initiatives - Jim Krokee

1130 - 1200 Wrap up Meeting - Plan future meetings, new officers, etc. - Jim Krokee/Group

1200 - 1300 **Lunch**

1300 - 1430 Officer's Meeting, Prepare Minutes - Bobby Carpenter, Jim Krokee, Sam Bass, new officers

1430 - 1700 Complete Minutes - Bobby Carpenter

PROCEEDINGS

Introductions and Meeting Agenda

Mr. Bobby Carpenter, Tri-Service CADD/GIS Technology Center, passed out the meeting agenda and a copy of the minutes for the April 1994 HTRW FWG meeting. Each person present at the meeting briefly introduced themselves and provided a brief overview of their job and the activities in which they were involved. Copies of the "Tri-Service CADD/GIS Technology Center Database Information Sheet" were passed out to those present.

Review of Previous Minutes and Goals of Meeting

Mr. Jim Krokee, SW DIV Navy Facilities Engineering Command (NAVFAC) and HTRW Field Working Group (FWG) Chairman, passed copies of a summary of the previous meeting and provided an overview of the presentations, discussions, concerns, and tasks from the previous meeting.

Status of Center Activities

Mr. Carpenter provided a brief overview of the Tri-Service CADD/GIS Technology Center and it's activities. The major activities at the Center during FY 94 included:

a. Tri-Service Geographic Information System (GIS) Spatial Data Standards (TSSDS). Center POC - Mr. Harold Smith, 601-634-4190.

- Copies of the draft Release 1.2 of the TSSDS were distributed for review in January 1994. Over 300 comments were received and resolved.
- Redundancies in the TSSDS were resolved.
- Revisions were made to the TSSDS to comply with the Spatial Data Transfer Standard (SDTS) (FIPS 173).
- Data modeling, using IDEF1x techniques, was accomplished to facilitate the elimination of redundancies, to better organize the TSSDS, and to comply with DoD Data Standardization Policy.
- Work was initiated on development of definitions.

- Work was accomplished on implementation of the TSSDS on the following two platforms:
    - Personal Computer (PC), Microsoft DOS and Windows 3.1, Autodesk AutoCAD for Windows Release 12/ADE, ESRI ArcCAD, Informix and Oracle databases via Server, and dBase database on PC.
    - Personal Computer (PC), Microsoft Windows NT, Intergraph Microstation NT 5.0, Intergraph MGE/MGA NT, and Informix database.
- Work was accomplished on development of symbols.
- The requirements of ESRI ARC/INFO were reviewed and addressed in the normalization of the TSSDS.
- The next version of the TSSDS will contain the data required for development of master planning/comprehensive planning maps and will be termed the "Foundation Set." It's distribution is currently scheduled for February 1995.

b. Tri-Service Architectural/Engineering/Construction (A/E/C) Computer-Aided Design and Drafting (CADD) Standards. Center POCs - Mr. Toby Wilson, 601-634-3604, or Mr. Steve Spangler, 601-634-3104.

c. Defense Mapping Agency (DMA) Standards Development. Representatives from the Center attended DMA mapping standards development meetings.

d. Sample CADD Details. The Center published architectural, mechanical, and electrical sample (generic) CADD details. The details were obtained from various Army, Navy, and Air Force sources and consolidated, edited, and published by the Center. Mr Sam Bass submitted HTRW details to the Center to be edited and published as the Sample HTRW CADD Details. Center POC - Mr. Spangler.

e. Bulletin Board. The Center maintains a Tri-Service CADD/GIS Bulletin Board. The ftp address for the Bulletin Board is 134.164.188.6 (DINO.WES.ARMY.MIL). Center POC - Mr. Matt Hale, 601-634-3509.

f. CADD User's Guide to Networks was published by the

Center. Center POC - Mr. Hale.

g. Training and Quarterly Bulletins. The Center offers several CADD/GIS related training courses and publishes a quarterly bulletin. Center POCs - Ms Joy Wells, 601-634-4582, or Ms Laurel Gorman, 601-634-4484.

h. A-E A/E/C CADD Deliverables Guidelines were developed and are scheduled to be published in FY 95. Center POC - Mr. Carpenter, 601-634-4572.

i. Field Working Groups. The Center has organized 21 CADD/GIS related field working groups which assist the Center in accomplishing it's assigned projects and advise the Center concerning future needs.

U.S. Army Technical Center for Explosives Safety

Mr. Don Van Name, U.S. Army Technical Center for Explosives Safety (USATCES), provided an overview of the activities of the USATCES. USATCES was established in February 1988 through a Director of Army Staff Approved Army Explosives Safety Program, and is the formal center of explosives/chemical agent safety expertise where specific technical information and support is obtained.

Mission related responsibilities of USATCES include:

- Support HQDA, MACOM Commanders, and the ammunition community Army-wide with explosives/chemical agent information and technical assistance.
- Develop and maintain Army explosives/chemical agent safety standards.
- Provide Army approval authority for the DoD Explosives Safety Board (DDESB) site and general construction plans.
- Track and process DDESB explosives/chemical agent safety reports/surveys.
- Track explosives/chemical agent waiver/exemptions and certification requests.
- Identify and support Army explosives/chemical agent safety training needs.
- Provide technical support to promote research, development, and application for explosives safety technology.

- Establish an explosives/chemical agent safety technical information management system.
- Maintain an automated Technical Library for the Army.
- Provide accident/malfunction investigation assistance.
- Support conduct of DA safety program assistance visits.
- Provide technical information required to support issues before the DAESC.
- Provide technical support to DA staff for budgetary planning.
- Analyze explosives accident and chemical agent incident data and follow up on remedial actions.
- Perform initial/periodic safety certification of explosives manufacturing and LAP processes.
- Perform Army hazard classification, both interim hazard and final hazard classifications.
- Maintain the Joint Hazard Classification System (JHCS) data base for the DDESB.
- Provide explosives/chemical agent safety technical support to Huntsville Division for Defense Environmental Restoration Program (DERP).

Mr. Van Name passed out copies of a paper entitled "EPA Issues Paper on Munitions Rule", dated 16 August 1994. The paper discussed the issues to be addressed by EPA in determining when, or if, explosives/munitions become hazardous waste.

HTRW CADD/GIS Initiatives of Interest

The next item on the agenda included a discussion concerning ongoing Tri-Service HTRW CADD/GIS initiatives or projects.

Mr. Chris Kyburg, SW DIV NAVFAC, began the discussion with an update on the development of "ITEMS", IT Corporation Environmental Management System, which has been renamed the Navy Environmental Data Transfer Standard (NEDTS). The NEDTS is a relational database application (which operates on an Oracle database) which provides for the storage, retrieval, and quality assurance of sampling, analysis, and geological environmental data. A contract has recently been awarded to Intergraph Corporation to support the SW DIV NAVFAC Environmental

Engineering Division in assisting in development of an electronic work flow process with data sharing requirements and solution sets, conversion of existing electronic environmental data into a form usable on the Intergraph equipment, providing specific hands-on training, and in developing custom menus for existing Intergraph applications. Intergraph will utilize the TSSDS and NEDTS in development of the database design, and integrate with their MGE/ERMA/VOXEL products.

Mr. Phil Hunter, Air Force Center for Environmental Excellance - Environmental Restoration Division (AFCEE/ERS), provided an update on the Air Force Installation Restoration Program Information Management System (IRPIMS). IRPIMS is a central repository for Air Force-wide IRP technical, contractual, and project data. IRPIMS uses an Oracle database with electronic data loading, and runs on either a MS-DOS personal computer (PC) or Unix Workstation.

Mr. Dennis Bowser, U.S. Army Environmental Center (AEC), provided a brief update on the Army's Installation Restoration Data Management Information System (IRDMIS), which was developed by AEC. IRDMIS uses an Oracle database. Work is underway to integrate IRDMIS into an ESRI ARC/INFO/Oracle GIS environment. Mr. Bowser indicated that scanned maps do not provide the level of accuracy which is required for their GIS applications.

Mr. Tom Reed, U.S. Army Corps of Engineers (COE), Alaska District, reported on several initiatives associated with their ongoing Defense Environmental Restoration Program - Formerly Used Defense Sites (DERP-FUDS) projects. A contractor is currently developing and populating an Oracle database (developed around IRPIMS), which will be used to store data from HTRW sampling activities (soil, water, drums, etc.), monitoring wells, boring logs, etc. The complete database structure is scheduled to be completed in January 1995. Mr. Reed indicated that there are problems associated with not recording and reporting HTRW sampling data until after the data validation process has been completed.

Mr. David Koran, HQ COE, discussed work that was being accomplished on development of a transfer standard and an electronic deliverables format for HTRW chemistry data.

Mr. Sam Bass, Missouri River Division COE (with input from Mr. Bob Warda, North Central Division COE, and Mr. James Huang, HQ COE) discussed the Spring Valley Integrated Information System (SVIIS), which was developed in support the DERP-FUDS Ordnance and Explosive Waste (OEW) remediation project at Spring Valley near Washington, DC. The remediation project was called "Operation Safe Removal". Huntsville Division COE awarded the remediation contract and provided safety personnel, while the Baltimore District COE provided the oversite (i.e., inspectors,

real estate support, PAO support, legal support, and construction administration). The SVIIS provided a mechanism for integrating all project related graphical, non-graphical, and "hardcopy" paper data and information into a manageable electronic format for public affairs, management, design, construction, and archives purposes and consisted of the following components:

- Electronic Document Management System - The Weston product called Hyper Cabinet 2.0 was used (programming language = Visual Basic). Historical and contract paper documents are scanned (using Laserscan software) and stored on a worm type optical disc. The worm disc is legally defensible because it cannot be altered (i.e., is read only).

- GIS - ESRI ARC/INFO running on a Sun Sparc with an Oracle database was used. ESRI ArcView was used for presenting the maps.

- Real Estate Database - Information concerning each parcel of real estate within the project area was integrated with the GIS Oracle database. The Right-of-Entry (ROE) permit number for each tract of property was used as the unique identifier for each real estate record.

Mr. Larry Mann, Seattle District COE, and Mr. Koran indicated that there is a need to scan field generated forms (e.g., geologist field logs, geophysical logs, chain of custody forms, boring logs, sample laboratory results prior to verification) in an electronic format for archive purposes. The electronic forms can be linked to a GIS database in the same manner as aerial and ground photographs. Mr. Steve Hopkins, HQ Department of Army, indicated that products and data that should be scanned and maintained for later access should be identified. the EPA has mandated that data and records associated with HTRW and environmental compliance, investigation, and remediation activities be permanently maintained.

Ft. Sam Houston CADD/GIS Program

Mr. Shane Watson, Ft. Sam Houston, briefed the group concerning the Ft. Sam Houston/Camp Bullis CADD/GIS Program. A summary of the presentation is as follows:

a. System Overview.

- The CADD system is maintained in the Installation Planning office, has been in place since 1984, and is Intergraph (DOS) based. The CADD system has

expanded to a multiple workstation environment. The major applications are real estate management and facility planning/design.

- An Integrated Training Area Management (ITAM) system was installed in 1993 - 1994. The ITAM is Unix based, uses GRASS GIS software, and will eventually include one workstation and x-Terminal at Ft. Sam Houston, and one workstation with Global Positioning System (GPS) at Camp Bullis. The major applications are natural resource management, cultural resource management, emergency response assistance, hazardous materials tracking, and environmental compliance.

b. Applications of CADD/GIS Data.

- Real Estate Management -
  - Building demolition schedule.
  - Coordination of hazardous material identification, removal, and remediation.

- Facility Planning and Design -
  - Construction design.
  - Coordination of siting with natural resources personnel.

- Natural Resource Management -
  - Survey, documentation, and long-term management goals for TES coordinated with mission activities.
  - Erosion/Site Hardening: identification of erosion problems with LRAM program; site hardening if necessary.
  - Aquifer recharge area protection: locate, survey for recharge and biological components, protect recharge areas. Edwards aquifer cave/recharge area currently under study.

- Cultural Resource Management -
  - Track historic properties and document changes to historic buildings.
  - Evaluate cumulative impacts to historic districts and landscapes using viewshed analysis.

- Emergency Response -
  - Currently developing updated maps for use by Ft. Sam Houston and Camp Bullis fire fighters.

- Updated roads, fire lanes, vegetation, buildings, water hydrants, etc.

- Hazardous Materials Management -
  - Coordinate inspection of buildings for asbestos containing materials (ACM), lead, PCB transformers (light ballasts), mercury switches (thermostats), and petroleums\oils\lubricants (POLs) and hazardous materials in response to demolition planning.

  - Track removal and remediation efforts of above items.

  - Satellite Accumulation Sites: collection sites for hazardous materials from which a contractor periodically removes and disposes of the hazardous materials.

  - Survey landfills for possible contamination, and accomplish remediation if necessary.

  - Underground storage tank evaluation and abatement activities.

  - Installation Restoration Program (IRP) - DoD wide program which tracks contaminated areas from identification through remediation phases. Activities have involved two sites contaminated with pesticides, one site contaminated with POL, one site contaminated with PCBs, and one site contaminated with lead.

- Monitoring of Potential Hazard Areas -
  - Installation of ground water monitoring wells.

  - Development of Depth to Groundwater Model using approximately 80 points each underground storage tank (UST) and landfill.

  - Monitoring of explosive ordnance disposal range.

  - Monitoring of Week-end Training Site.

  - UST evaluation and abatement.

c. Development Process.

- LAN installation will permit inter-office data transfer. LAN will run Novell Netware.

- Inventory existing databases and disseminate data.

- Data development responsibilities will be focused on CADD/GIS system strengths, such as:

    - CADD system focus on development of detailed buildings, roads, infrastructure digital data files.

    - GIS system focus on natural features and conditions (i.e., soils, hydrology, vegetation, etc.).

    - Labeling/file naming system will be compatible with both systems.

- Cooperative agreements will be developed with other local agencies (e.g., U.S. Soil Conservation Service (SCS) and AACOG) for acquisition of digital soil survey and digital orthophotography data. A partnering/cost sharing agreement with the SCS for acquisition of soil survey digital data has already been implemented.

- A hazardous materials tracking system is being developed which will track hazardous materials from the time they arrive at the installation until the time they are used/disposed of. It will be modeled after the Kelly AFB hazardous materials tracking system.

d. Upon Completion.

- The completed CADD/GIS system will provide ease of data sharing, e.g., direct data transfer between offices at Ft. Sam Houston and higher command, direct data transfer between Ft. Sam Houston and Camp Bullis, regular and consistent updating of maps using GPs technology, various digital and hard-copy output formats for compatibility with other agencies, and improved hazardous materials tracking abilities.

- Public relations will be improved, e.g., streamlining the annual reporting to state regulatory agencies process, and increased availability of information required by Emergency Planning Community Right to Know Act (EPCRA).

- Completion of the CADD/GIS system implementation is anticipated for FY96.

USACE North Central Division's GIS Initiatives

Mr. Bob Warda, North Central Division (NCD) COE, provided a briefing concerning the utilization of GIS technology within the North Central Division COE. GIS technology is a tool used by study/project managers, and must be cost effective for the application to be used for.

NCD first used GIS technology to assist in their efforts during and after the spring 1992 Chicago River flood. Current initiatives within NCD which utilize GIS technology include:

- DERP-FUDS - Intergraph Windows NT PC with MGE NT. The GIS includes over 7,000 DERP-FUDS sites and links with the DERP-FUDS database at the Waterways Experiment Station (WES) for access to data concerning each site. GIS will be able to link with plans, drawings, and groundwater models.

- Badger Army Ammunition Plant (AAP) - Intergraph MGE with Oracle database used. The GIS contains well/sampling data for 422 monitoring wells, a groundwater model, a chemical contour map, digitized basemaps with utility, land use, lithology and stratigraphy maps, and building identification and classification data.

- OEW Archive Search Reports - NCD is assisting Huntsville Division and USATCES in the preparation of OEW archive search reports by using GIS technology to "warp" historical drawings and aerial photographs over current drawings and aerial photographs for the purpose of identifying potential areas of concern.

- Mississippi River 1993 Flood - Rock Island District COE digitized maps for use by the Federal Emergency Management Agency (FEMA) during and after the flood. Intergraph MGE GIS technology was also used to identify the area flooded and floodplain, and to identify structures within the floodplain. The GIS is linked to a database providing data concerning structure type, damages, etc., and to photographs of structures.

- Lake Odessa Wildlife Habitat Mapping - Habitat mapping using aerial imaging.

- Pool 11 Aquatic Habitat - Demonstrated aquatic

vegetation moves, not destroyed.

- FEMA exercise/nuclear power plant disaster - Multi-agency nuclear power plant disaster exercise.

- Utility studies at Iowa AAP - Autodesk AutoCAD used for Digitizing basemaps and utility drawings.

- Saylorville Bike Path

Field Trip to Kelly Air Force Base HTRW Remediation Projects

Mr. Hunter made arrangements for the attendees to visit several active HTRW remediation sites at Kelly AFB on Wednesday morning, 16 November 1994. The sites visited at Kelly AFB included bioremediation, bioventing, and groundwater sparging.

Wrap-Up Session

Following the field trip, the attendees met for the purpose of electing new officers, and for planning future meetings and tasks.

- Officers - Mr. Christopher Kyburg was elected the new HTRW FWG Chairman. Mr. Sam Bass will remain the HTRW FWG vice Chairman.

- HTRW FWG Meeting - The next HTRW FWG meeting was tentatively scheduled for May 1995 in Chicago, Illinois. A brief summation of goals, subgroup meetings, etc. will be sent to attendees prior to the meeting.

- Installation Restoration Program/Site Remediation Subgroup Meeting - A subgroup, initially consisting of Messrs. Dennis Bowser, Phil Hunter, Christopher Kyburg, and Tom Reed was organized for the purpose of reviewing and incorporating HTRW installation restoration program and site remediation requirements into the TSSDS and Tri-Service Facility Management Standards. A 10 - 13 January 1995 meeting in Dallas, Texas was scheduled for the subgroup to consolidate the applicable portions of the IRPIMS, IRDIMIS, and NEDTS, which will subsequently incorporated into the TSSDS.

Environmental Compliance Subgroup Meeting - A subgroup, initially consisting of Messrs. Larry Mann (or a representative from his

office), James Krokee, Ed Simms (AEC), and Chung Yen (AFCEE-ERC) was organized for the purpose of reviewing and incorporating HTRW environmental compliance requirements into the TSSDS and Tri-Service Facility Management Standards. A 10 - 12 January 1995 meeting in Dallas, Texas was scheduled for the subgroup to review current environmental compliance standards/requirements, which will subsequently incorporated into the TSSDS.

- Coordination with Other FWG's - The attendees expressed a need for a joint meeting with Facility Management and Environmental FWG's for the purpose of avoiding duplication of effort and coordination of activities. A joint meeting has been held with the Geotech FWG in April 1994. Mr. Carpenter will consult with the Center Facilitators for these FWG's for the purpose of possibly arranging a joint meeting in May 1995.

- Definitions - The attendees indicated that future issues of the TSSDS must contain entity, attribute, and domain definitions. Existing available definitions will be used wherever possible. The Center and subgroups will work on incorporating existing definitions into the TSSDS.

- Future HTRW FWG Tasks/Projects.

- Select ones with Tri-Service applicability to follow/investigate/work with.

- Review/recommend HTRW software packages, CADD/GIS applications, electronic communications.

- Review HTRW modules for TSSDS and Facility Management Standards for missing elements.

- Develop radioactive waste/chemical warfare material waste/ordnance & explosive waste data for incorporation into standards.